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Correspondence

Urinary Microalbumin as a Marker for Intermittent Claudication

Sir,

We note with interest the recent paper by Matsushita *et al.*[1] regarding the use of urinary microalbumin excretion as a marker of intermittent claudication and wish to comment on several important points. Although we are flattered by the eponymous recognition of the method of urinary sampling, the authors chose to stratify their patients according to the absolute albumin-creatinine ratio (ACR) following treadmill exercise, rather than using the exercise-induced change in ACR from baseline levels. Microalbuminuria is a transient phenomenon in claudication, resulting from an increase in glomerular permeability following exercise, which reflects a generalised increase in vascular permeability.[2] It is well documented that ACR increases significantly in claudicants following treadmill exercise with no corresponding increase in matched control subjects.[3,4]

This study showed that those with an elevated post-exercise ACR had a prolonged Doppler ankle pressure recovery time (PRT). A significant correlation between post-exercise increase in ACR and PRT has previously been reported in this journal.[4] As one would perhaps expect, the authors demonstrated that limiting the distance walked to 50% and 25% of the maximum exercise tolerance, by repeat testing on different days, led to a progressive decrease in the post-exercise ACR. This makes the assumption that the pre-exercise ACR is reproducible, although no data is given to support this. Again, a more valid method would be to assess the exercise-induced change in ACR with different walking distances. The authors also demonstrated a decrease in the absolute post-exercise ACR following bypass surgery. No mention was made as to the timing of the postoperative sample, which is important as microalbuminuria is a consequence of surgery itself as well as a marker of postoperative complications.[5] We presume that the postoperative assessment was made after allowing the inflammatory response following surgery to subside. The intermediate-term effect of vascular surgical bypass on ACR is also not new. A previous study showed that at 3 months following bypass surgery for claudication, the baseline ACR was unchaged, while the increase in ACR following treadmill exercise was significantly reduced.[6] Matsushita *et al.* conclude that an elevated post-exercise ACR can be used to follow the course of the disease but provide no longitudinal evidence for this. We believe that urinary microalbumin excretion is an important disease marker in claudication but suggest that this study does not provide us with any new information.

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References

1 Matsushita M, Nishikimi N, Sakurai T, Yano T, Nimura Y. Urinary microalbumin as a marker for intermittent claudication. *Eur J Vasc Endovasc Surg* 1996; **11**: 421–424.
2 Shearman CP, Gosling P, Simms MH. Glomerular permeability to large molecules: a marker of vascular permeability? *Br J Surg* 1988; **75**: 1273.
3 Sshearman CP, Gosling P, Gwynn BR, Simms MH. Systemic effects associated with intermittent claudication. A model to study biochemical aspects of vascular disease? *Eur J Vasc Surg* 1988; **2**: 401–404.
4 Hickey NC, Shearman CP, Gosling P, Simms MH. Assessment of intermittent claudication by quantitation of exercise-induced microalbuminuria. *Eur J Vasc Surg* 1990; **4**: 603–606.
5 Gosling P, Shearman CP, Gwynn BR, Simms MH. Micro-proteinuria: response to operation. *BMJ* 1988; **296**: 338–339.
6 Hickey NC, Gosling P, Baar S, Shearman CP, Simms MH. Effect of surgery on the systemic inflammatory response to intermittent claudication. *Br J Surg* 1990; **77**: 1121–1121.

No reply received

Sigmoid pH after Aortoiliac Surgery

Sir,

We read with interest the paper on the relationship between sigmoidal intramucosal pH and intestinal

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